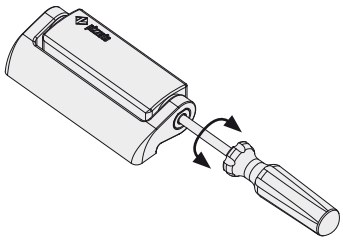
Safety hinge switches **HP-HC** series

Description

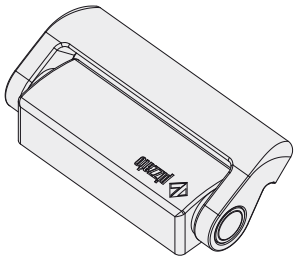
Pizzato Elettrica widens its own range of products with the new HP-HC series of safety hinge switches, where safety and style are melted in one single product.
The electrical switch is completely integrated in the mechanical hinge, to result practically invisible to an inexpert eye. This guarantees a higher safety because a switch hard to identify is consequently also more difficult to defeat. The assembly without visible screws and the pleasant line, make the switch perfectly integrated also with guards of modern design machinery. In order to complete the offer complementary hinges with purely mechanics functions are available.

Adjustment of the operating point



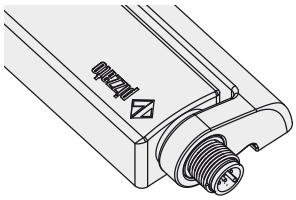
The operating point of the switches can be set with a flat-blade screwdriver.
The operating point regulation allows the setting possibility for large guards. After the setting, it's always necessary to seal the hole with the supplied safety seal plug.

Variations of the activation base angle



New versions with the switch activation angle equal to a multiple of 15° (e.g. 45° or 90°) are available on request.
The different activation angle does not invalidate the possibility to adjust the operating point through the switch adjusting screws. The variation of the operating angle does not alter the switch maximum mechanical travel.

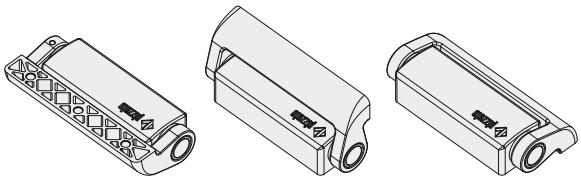
Integrated M12 connector



Versions with connection from the top or the bottom are available with integrated M12 connector.
The application of versions with connector allows a faster wiring when it's necessary to move guards from test line to final user.

Opening angle up to 180°

The mechanical design of the switch allows the application also on protections up to 180° opening angle.

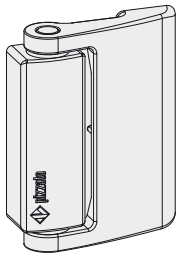


Protection degrees IP67 and IP69K

IP69K
IP67

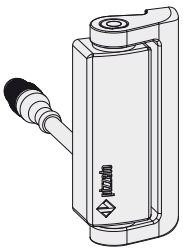
These devices are designed to be used in the toughest environmental conditions and they pass the IP67 immersion test acc. to IEC 60529. They can therefore be used in all environments where the maximum protection of the housing is required. Special measures also allow devices to be used even in machines which are subjected to washing with high pressure warm water jets. In fact these devices pass the IP69K test according to ISO 20653, using jets of water to 100 atmospheres at a temperature of 80°C.

Versions for glass or polycarbonate doors



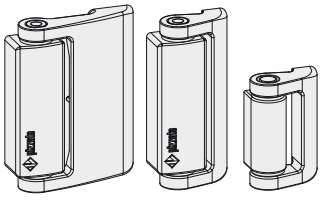
It's available a variation of the switch shape specifically designed for glass and polycarbonate doors without frame.
The wider supporting arm and the spaced fixing points facilitate the installation and prevent the cracking caused by holes too near the guard edge.
However, it is necessary to verify that the door mechanical stop is not performed by the switch.

Cable with connector at the back



The version with a rear cable and M12 connector is the best combination between aesthetics and connection ease.
When machineries have to be assembled by the final customer, this solution allows to hide the wiring and at the same time to easily connect or disconnect it from inside the machinery.

Additional hinges

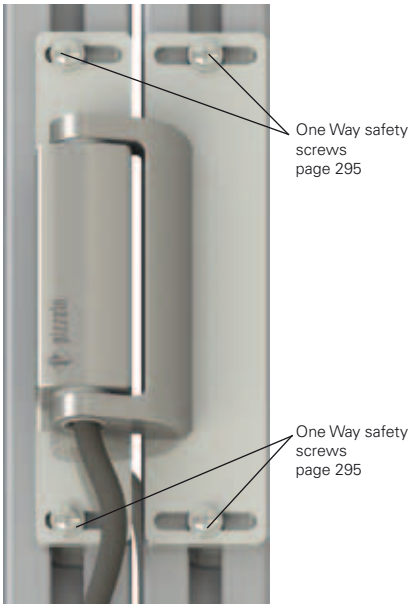


To complete installation, various types of additional hinges are available, varying in numbers depending on the protection guard weight.
These hinges keep the same aesthetics and without the electrical part their price is lower.

Application examples

- Switch without supports
- Rear fixing
- Cable output, rear

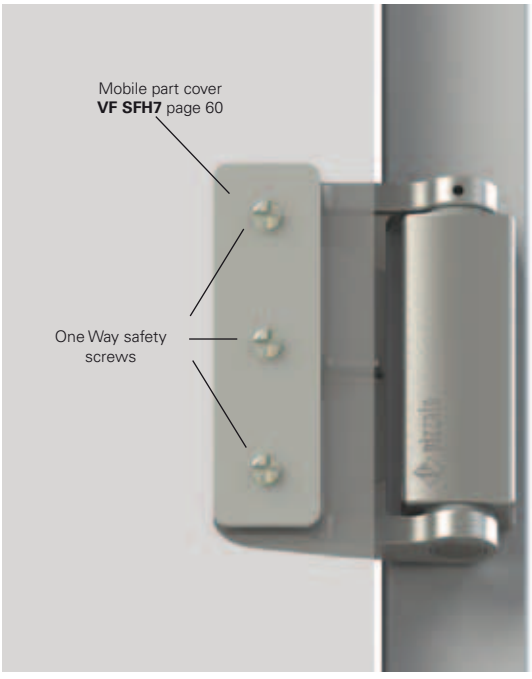
- Switch with angular supports for profiles with slots
- Fixing with internal screws
- Connector output, bottom



- Switch with plane supports for profiles with slots
- Fixing with front screws.
- Cable output, bottom

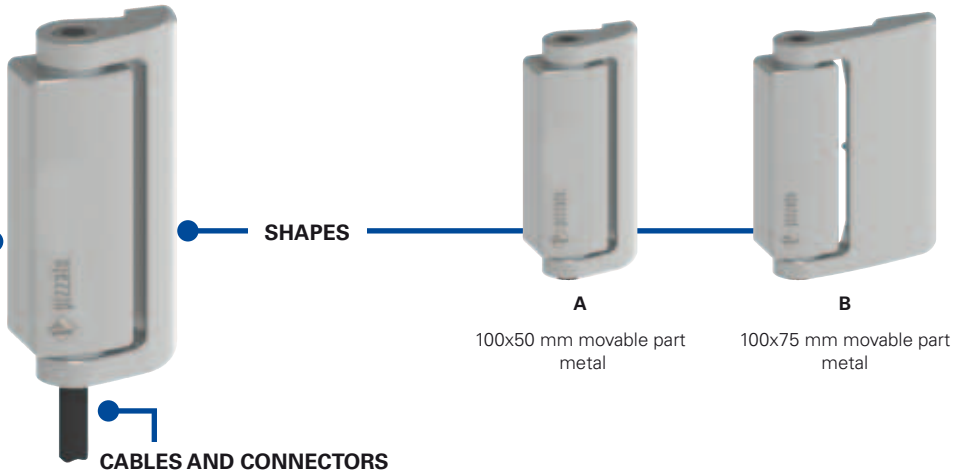
Closed door

Open door



- Direct fixing to the polycarbonate plate
- Switch without supports
- Fixing with internal screws
- Connector output, rear.

Selection diagram



SHAPES

A
100x50 mm movable part
metal

B
100x75 mm movable part
metal

CABLES AND CONNECTORS

S
cable output, bottom
(standard)

A
cable output, top

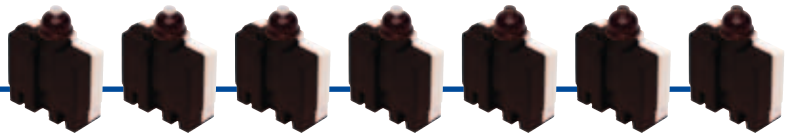
P
cable output, rear

KSM
M12 connector
bottom

KAM
M12 connector
top

0.2PM
cable (0.2 m) with M12
connector, rear

CONTACT BLOCKS



52C
1NO+1NC,
slow action

52D
2NC
slow action

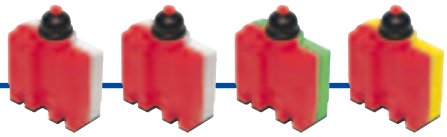
52F
1NO+2NC,
slow action

52M
2NO+2NC
slow action

53C
1NO+1NC,
slow action
overlapped

53F
1NO+2NC,
slow action
overlapped

53M
2NO+2NC
slow action
overlapped



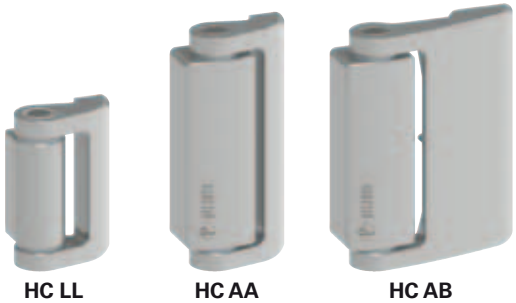
50C
1NO+1NC,
snap action

50D
2NC
snap action

50F
1NO+2NC,
snap action

50M
2NO+2NC
snap action

ADDITIONAL HINGES



HC LL

HC AA

HC AB

product option

Code structure

Attention! The feasibility of a code number does not mean the effective availability of a product. Please contact our sales office.

article options

HP AA052C-2SNGH15

Movable part	
A	100x50 mm movable part, metal
B	100x75 mm movable part, metal

Contact blocks	
52C	1NO+1NC, slow action
52D	2NC, slow action
52F	1NO+2NC, slow action
52M	2NO+2NC, slow action
53C	1NO+1NC, slow action, overlapped
53F	1NO+2NC, slow action, overlapped
53M	2NO+2NC, slow action, overlapped
50C	1NO+1NC, snap action
50D	2NC, snap action
50F	1NO+2NC, snap action
50M	2NO+2NC, snap action

The versions with snap-action contact blocks are recommended for doors having a radius not greater than 600 mm.

Connection type	
0.2	cable length 0.2 m (available only for versions 0.2 PM)
0.5	cable length 0.5 m
...	.....
2	cable length 2 m (standard)
...	.....
10	cable length 10 m
K	integrated connector

Activation angle	
	0° activation angle (standard)
H15	15° activation angle
H30	30° activation angle
H45	45° activation angle
H60	60° activation angle
H75	75° activation angle
H90	90° activation angle

Contact type	
	silver contacts (standard)
G	silver contacts with 1 µm gold coating

Cable or connector type	
N	black PVC cable, IEC 60332-1 (standard)
G	grey PVC cable, CEI 20-22 II
H	grey PUR cable, halogen free
R	cable for railway applications (EN 50306-4)
M	M12 connector

Output direction, connections	
S	movable part at the right and bottom output
P	movable part at the right and rear output
A	movable part at the right and output at top
Q	movable part at the left and rear output

HC AA

Additional hinges (H x L)	
HC AA	100.6 x 49 mm
HC AB	100.6 x 79 mm
HC LL	65 x 44.5 mm

Safety hinge switches **HP-HC** series

Main features

- Metal housing, cable output at top, bottom or rear
- 4 integrated cable types available
- Versions with M12 connector
- Protection degrees IP67 and IP69K
- 9 contact blocks with positive opening ⊕
- Additional hinges without contacts

Markings and quality marks:

IMQ approval:	CA02.03746
UL approval:	E131787
CCC approval:	2013010305647255
EAC approval:	RU C-IT ДМ94.B.01024

Technical data

Housing

Metal housing, baked powder coating
Version with integrated cable, length 2 m, other lengths on request.
Versions with integrated M12 connector, 5 or 8 poles

Protection degree:	IP67 acc. to EN 60529 IP69K acc. to ISO 20653 (Protect the cables from direct high-pressure and high-temperature jets)

General data

For safety applications up to:	SIL 3 acc. to EN 62061 PL e acc. to EN ISO 13849-1
Mechanical interlock, not coded:	type 1 acc. to EN ISO 14119
Safety parameters:	
B_{10d}:	5,000,000 for NC contacts
Service life:	20 years
Ambient temperature:	See table on page 56
Max. actuation frequency:	1200 operating cycles[1]/hour
Mechanical endurance:	1 million operating cycles[1]
Max. actuation speed:	90°/s
Min. actuation speed:	2°/s
Mounting position:	any
Max. axial load:	1500 N (HP AA) / 750 N (HP AB)
Max. radial load:	1000 N (HP AA) / 500 N (HP AB)
Tightening torque, M5 screws:	3 … 5 Nm

(1) One operation cycle means two movements, one to close and one to open contacts, as defined in EN 60947-5-1. After 1 million operating cycles the operating point increases by 1.8°.

Electrical data

Rated impulse withstand voltage Uimp:	4 kV
Conditional short circuit current:	1000 A acc. to EN 60947-5-1
Pollution degree:	3

In conformity with standards:
IEC 60947-5-1, EN 60947-5-1, EN 60947-1, IEC 60204-1, EN 60204-1, EN ISO 14119, EN ISO 12100, IEC 60529, EN 60529, ISO 20653, UL 508, CSA 22.2 No.14.
Approvals:
IEC 60947-5-1, UL 508, CSA 22.2 No.14.

In conformity with the requirements of:
Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.
Positive contact opening in conformity with standards:
IEC 60947-5-1, EN 60947-5-1.

⚠ **If not expressly indicated in this chapter, for correct installation and utilization of all articles see chapter utilization requirements on page 297.**

⚠ **Important: Switch off the circuit voltage before disconnecting the connector from the switch. The connector is not suitable for separation of electrical loads. According to EN 60204-1, versions with 8-pin 2NO+2NC M12 connector can be used only in PELV circuits.**

Characteristics approved by IMQ

Rated insulation voltage (Ui):	250 Vac
Conventional free air thermal current (Ith): /	10 A (1-2 contacts) / 6 A (2-3 contacts) / 4 A (4 contacts or 5-pin M12 connector)
Protection against short circuits (fuse):	10 A (1-2 contacts) / 6 A (2-3 contacts) / 4 A (4 contacts or 5-pin M12 connector), gG type

Rated impulse withstand voltage (U_{imp}): 4 kV
Protection degree of the housing: IP67
MA terminals (saddle clamps)

Pollution degree:	3
Utilization category:	AC15 / DC13 (with connector)
Operating voltage (Ue):	250 Vac (50 Hz) / 24 Vdc (with connector)
Operating current (Ie):	3 A / 2 A (with connector)

Forms of the contact element: X, Y, X+Y, X+X, Y+Y, Y+Y+X, X+X+Y, X+X+Y+Y
Positive opening of contacts on contact blocks 50A, 50C, 50D, 50F, 50G, 50M, 51A, 51C, 51D, 51F, 51G, 51M, 52A, 52C, 52D, 52F, 52G, 52M, 53A, 53C, 53D, 53F, 53G, 53M

In conformity with standards: EN 60947-1, EN 60947-5-1 + A1:2009, fundamental requirements of the Low Voltage Directive 2006/95/EC.

Please contact our technical service for the list of approved products.

Characteristics approved by UL

Utilization categories	R300 pilot duty (28 VA, 125-250 Vdc) B300 pilot duty (360 VA, 120-240 Vac) (1-2-3 cont.) C300 pilot duty (180 VA, 120-240 Vac) (4 cont.)

Data of housing type 1, 4X "indoor use only", 12.
Housing data for versions with 1-2 contacts and type N cable type 1, 4X "indoor use only"

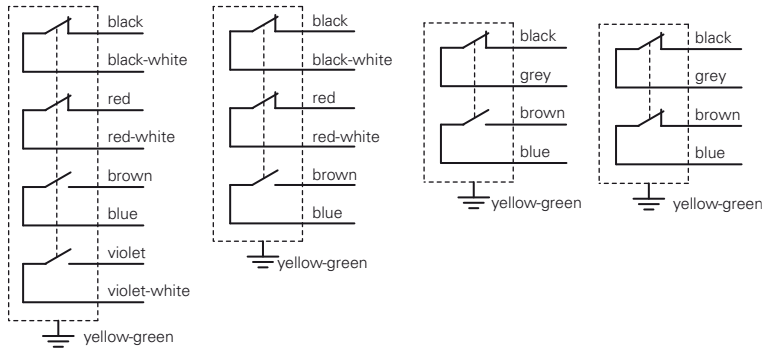
In conformity with standard: UL 508, CSA 22.2 No.14

Please contact our technical service for the list of approved products.

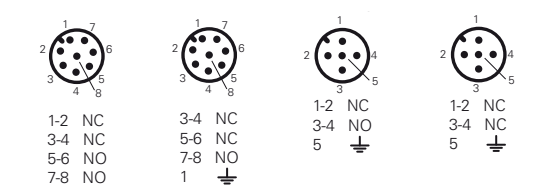
Utilization temperatures and electrical data

		Output with cable								Output with M12 connector	
		Versions with 2 contacts				Versions with 3 contacts		Versions with 4 contacts		Versions with 2 contacts	Versions with 3/4 contacts
		Cable type N 5x0.75 mm², Sheath PVC H05VV-F, Self-extinguishing IEC 60332-1-2 IEC 60332-1-3 Minimum bending radius: 72 mm External diameter: 8 mm Stripped end: 80 mm Class 5 copper IEC 60228	Cable type G 5x0.75 mm², Sheath PVC 05VV-F, Self-extinguishing IEC 60332-1-2 IEC 60332-1-3 IEC 60332-3 CEI 20-22 II Minimum bending radius: 72 mm External diameter: 8 mm Stripped end: 80 mm Class 5 copper IEC 60228	Cable type H 5x0.75 mm², Max. speed 100 m/min Max. acceleration 2 m/s² Sheath PUR HALOGEN FREE Self-extinguishing IEC 60332-1-2 IEC 60332-1-3 Minimum bending radius: 70 mm Without halogen Oil resistant IEC 60811-2-1 External diameter: 8 mm Stripped end: 80 mm IEC 60228 class 6 copper	Cable type R 5x0.5 mm² Cable for railway applications EN50306-4 1E-300V-5x0.5 mm² MM-90 Cable in conformity with standards: EN 50306-4 EN 45555 Self-extinguishing: IEC 60332-1 EN 50305 EN 50306-1 Minimum bending radius: 60 mm External diameter: 6 mm Stripped end: 80 mm Class 5 copper IEC 60228	Cable type N 7x0.5 mm² Sheath PVC 03VV-F, Self-extinguishing IEC 60332-1-2 IEC 60332-1-3 Minimum bending radius: 108 mm External diameter: 7 mm Stripped end: 80 mm Class 5 copper IEC 60228	Cable type H 7x0.5 mm², Max. speed 300 m/min Max. acceleration 25 m/s² Sheath PUR HALOGEN FREE Self-extinguishing IEC 60332-1-2 IEC 60332-1-3 Minimum bending radius: 108 mm Halogen free Oil resistant IEC 60811-2-1 External diameter: 7 mm Stripped end: 80 mm Class 6 copper IEC 60228	Cable type N 9x0.34 mm² Sheath PVC 03VV-F, Self-extinguishing IEC 60332-1-2 IEC 60332-1-3 Minimum bending radius: 94 mm External diameter: 7 mm Stripped end: 80 mm Class 5 copper IEC 60228	Cable type R 9x0.5 mm² Cable for railway applications EN50306-4 1P300V-9x0.5 mm² MM-90 Cable in conformity with standards: EN 50306-4 EN 45555 Self-extinguishing: IEC 60332-1 EN 50305 EN 50306-1 Minimum bending radius: 60 mm External diameter: 6,5 mm Stripped end: 80 mm Class 5 copper IEC 60228	M12 connector 5 poles	M12 connector 8 poles
Ambient temperature standard	Cable fixed installation	-25°C … +70°C	-25°C … +70°C	-25°C … +80°C	-25 °C +80 °C	-25°C … +80°C	-25°C … +80°C	-25°C … +80°C	-25 °C +80 °C	-25°C … +80°C	
	Cable flexible installation	+5°C … +70°C	+5°C … +70°C	-25°C … +80°C	-25 °C +80 °C	-5 °C … +80 °C	-25°C … +80°C	-5 °C … +80 °C	-25 °C +80 °C		
	Cable mobile installation	/	/	-25°C … +80°C	/	/	-25°C … +80°C	/	/		
Ambient temperature extended (-T6)	Cable fixed installation	/	/	-40°C … +80°C	-40°C … +80°C	/	-40°C … +80°C	/	-40 °C +80 °C		
	Cable flexible installation	/	/	-40°C … +80°C	-40°C … +80°C	/	-30 °C … +80 °C	/	-40 °C +80 °C	-40°C … +80°C	
	Cable mobile installation	/	/	-40°C … +80°C	/	/	-30 °C … +80 °C	/	/		
Electrical data	Thermal current Ith	10 A	10 A	10 A	6 A	6 A	6 A	3 A	4 A	4 A	2 A
	Rated insulation voltage Ui	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac 300 Vdc	30 Vac 36 Vdc
	Protection against short circuits (fuse)	10 A 500 V type gG	10 A 500 V type gG	10 A 500 V type gG	6 A 500 V type gG	6 A 500 V type gG	6 A 500 V type gG	3 A 500 V type gG	4 A 500 V type gG	4 A 500 V type gG	2 A 500 V type gG
	Utilization category DC13 24 V	2 A	2 A	2 A	2 A	2 A	2 A	2 A	2 A	2 A	2 A
	Utilization category DC13 125 V	0.4 A	0.4 A	0.4 A	0.4 A	0.4 A	0.4 A	0.4 A	0.4 A	0.4 A	/
	Utilization category DC13 250 V	0.3 A	0.3 A	0.3 A	0.3 A	0.3 A	0.3 A	0.3 A	0.3 A	0.3 A	/
	Utilization category AC15 24 V	4 A	4 A	4 A	4 A	4 A	4 A	3 A	4 A	4 A	2 A
	Utilization category AC15 120 V	4 A	4 A	4 A	4 A	4 A	4 A	3 A	4 A	4 A	/
	Utilization category AC15 250 V	4 A	4 A	4 A	4 A	4 A	4 A	3 A	4 A	4 A	/
Approvals		CE cULus IMQ EAC CCC	CE EAC CCC	CE cULus IMQ EAC CCC	CE IMQ EAC CCC	CE cULus IMQ EAC CCC	CE cULus IMQ EAC CCC	CE cULus IMQ EAC CCC	CE IMQ EAC CCC	CE cULus IMQ EAC CCC	CE cULus EAC CCC

Internal connections of the cable



Internal connections of the connector



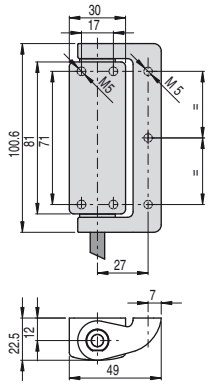
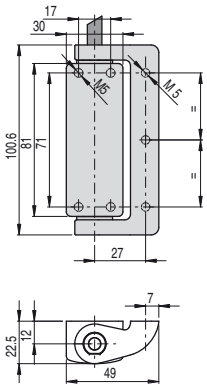
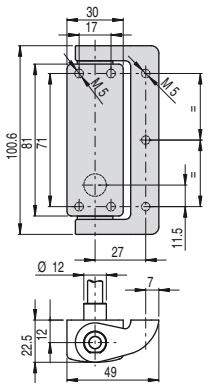
Sockets See page 287

Dimensional drawings

All measures in the drawings are in mm

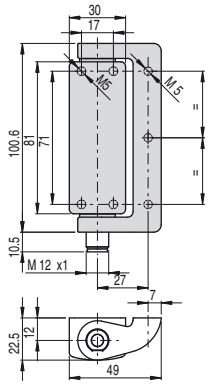
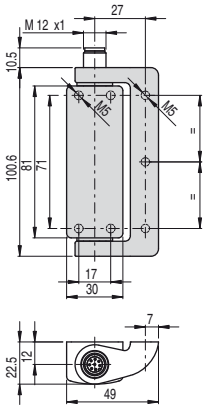
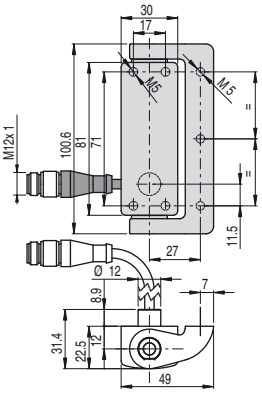
Contact type:

L = slow action
LO = slow action overlapped

Contact blocks		2 m cable, bottom		2 m cable, top		2 m cable, rear	
							
52C	L	HP AA052C-2SN	1NO+1NC	HP AA052C-2AN	1NO+1NC	HP AA052C-2PN	1NO+1NC
52D	L	HP AA052D-2SN	2NC	HP AA052D-2AN	2NC	HP AA052D-2PN	2NC
52F	L	HP AA052F-2SN	1NO+2NC	HP AA052F-2AN	1NO+2NC	HP AA052F-2PN	1NO+2NC
52M	L	HP AA052M-2SN	2NO+2NC	HP AA052M-2AN	2NO+2NC	HP AA052M-2PN	2NO+2NC
53C	LO	HP AA053C-2SN	1NO+1NC	HP AA053C-2AN	1NO+1NC	HP AA053C-2PN	1NO+1NC
53F	LO	HP AA053F-2SN	1NO+2NC	HP AA053F-2AN	1NO+2NC	HP AA053F-2PN	1NO+2NC
53M	LO	HP AA053M-2SN	2NO+2NC	HP AA053M-2AN	2NO+2NC	HP AA053M-2PN	2NO+2NC
Min. force		0.3 Nm (0.65 Nm)		0.3 Nm (0.65 Nm)		0.3 Nm (0.65 Nm)	
Travel diagrams		page 59 - group 1		page 59 - group 1		page 59 - group 1	

Contact type:

L = slow action
LO = slow action overlapped

Contact blocks		M12 connector, bottom		M12 connector, top		cable (0.2 m) and M12 connector, rear	
							
52C	L	HP AA052C-KSM	1NO+1NC	HP AA052C-KAM	1NO+1NC	HP AA052C-0.2PM	1NO+1NC
52D	L	HP AA052D-KSM	2NC	HP AA052D-KAM	2NC	HP AA052D-0.2PM	2NC
52F	L	HP AA052F-KSM	1NO+2NC	HP AA052F-KAM	1NO+2NC	HP AA052F-0.2PM	1NO+2NC
52M	L	HP AA052M-KSM	2NO+2NC	HP AA052M-KAM	2NO+2NC	HP AA052M-0.2PM	2NO+2NC
53C	LO	HP AA053C-KSM	1NO+1NC	HP AA053C-KAM	1NO+1NC	HP AA053C-0.2PM	1NO+1NC
53F	LO	HP AA053F-KSM	1NO+2NC	HP AA053F-KAM	1NO+2NC	HP AA053F-0.2PM	1NO+2NC
53M	LO	HP AA053M-KSM	2NO+2NC	HP AA053M-KAM	2NO+2NC	HP AA053M-0.2PM	2NO+2NC
Min. force		0.3 Nm (0.65 Nm)		0.3 Nm (0.65 Nm)		0.3 Nm (0.65 Nm)	
Travel diagrams		page 59 - group 1		page 59 - group 1		page 59 - group 1	

Attention! The safety hinge switch can be combined together exclusively with one or more Pizzato Elettrica hinges (series HP or HC). The use of whichever other hinge does not guarantee the correct operation of the safety device.

Items with code on **green** background are stock items

Accessories See page 287

The 2D and 3D files are available at **www.pizzato.com**

Versions for glass or polycarbonate doors - Dimensional drawings

All measures in the drawings are in mm

Contact type:

L = slow action
LO = slow action overlapped

Contact blocks

		2 m cable, bottom		2 m cable, top		2 m cable, rear	
52C	L	HP AB052C-2SN	1NO+1NC	HP AB052C-2AN	1NO+1NC	HP AB052C-2PN	1NO+1NC
52D	L	HP AB052D-2SN	2NC	HP AB052D-2AN	2NC	HP AB052D-2PN	2NC
52F	L	HP AB052F-2SN	1NO+2NC	HP AB052F-2AN	1NO+2NC	HP AB052F-2PN	1NO+2NC
52M	L	HP AB052M-2SN	2NO+2NC	HP AB052M-2AN	2NO+2NC	HP AB052M-2PN	2NO+2NC
53C	LO	HP AB053C-2SN	1NO+1NC	HP AB053C-2AN	1NO+1NC	HP AB053C-2PN	1NO+1NC
53F	LO	HP AB053F-2SN	1NO+2NC	HP AB053F-2AN	1NO+2NC	HP AB053F-2PN	1NO+2NC
53M	LO	HP AB053M-2SN	2NO+2NC	HP AB053M-2AN	2NO+2NC	HP AB053M-2PN	2NO+2NC
Min. force		0.3 Nm (0.65 Nm →)		0.3 Nm (0.65 Nm →)		0.3 Nm (0.65 Nm →)	
Travel diagrams		page 59 - group 1		page 59 - group 1		page 59 - group 1	

Contact type:

L = slow action
LO = slow action overlapped

Contact blocks

		M12 connector, bottom		M12 connector, top		cable (0.2 m) and M12 connector, rear	
52C	L	HP AB052C-KSM	1NO+1NC	HP AB052C-KAM	1NO+1NC	HP AB052C-0.2PM	1NO+1NC
52D	L	HP AB052D-KSM	2NC	HP AB052D-KAM	2NC	HP AB052D-0.2PM	2NC
52F	L	HP AB052F-KSM	1NO+2NC	HP AB052F-KAM	1NO+2NC	HP AB052F-0.2PM	1NO+2NC
52M	L	HP AB052M-KSM	2NO+2NC	HP AB052M-KAM	2NO+2NC	HP AB052M-0.2PM	2NO+2NC
53C	LO	HP AB053C-KSM	1NO+1NC	HP AB053C-KAM	1NO+1NC	HP AB053C-0.2PM	1NO+1NC
53F	LO	HP AB053F-KSM	1NO+2NC	HP AB053F-KAM	1NO+2NC	HP AB053F-0.2PM	1NO+2NC
53M	LO	HP AB053M-KSM	2NO+2NC	HP AB053M-KAM	2NO+2NC	HP AB053M-0.2PM	2NO+2NC
Min. force		0.3 Nm (0.65 Nm →)		0.3 Nm (0.65 Nm →)		0.3 Nm (0.65 Nm →)	
Travel diagrams		page 59 - group 1		page 59 - group 1		page 59 - group 1	

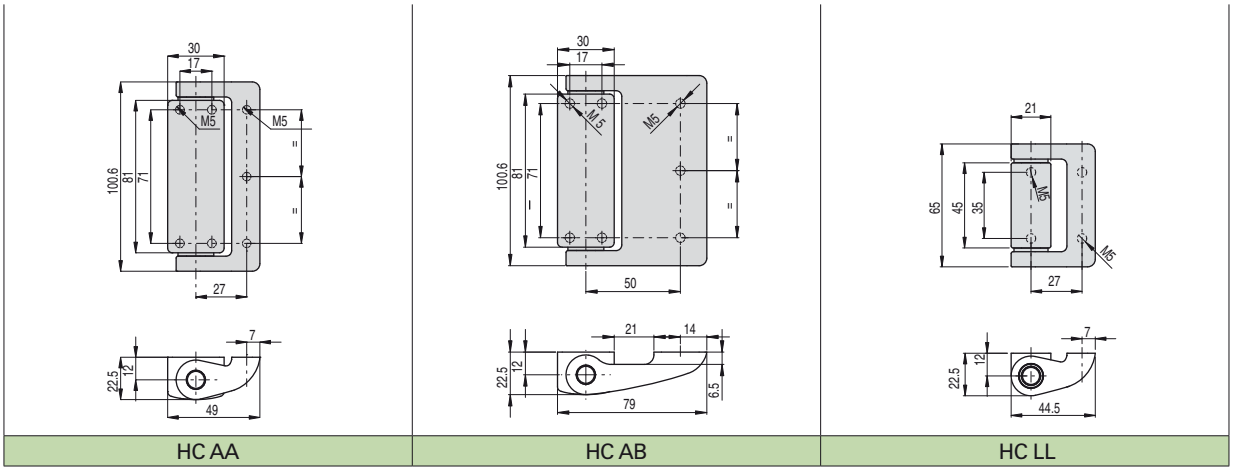
Attention! The safety hinge switch can be combined together exclusively with one or more Pizzato Elettrica hinges (series HP or HC). The use of whichever other hinge does not guarantee the correct operation of the safety device.

Accessories See page 287

→ The 2D and 3D files are available at **www.pizzato.com**

Additional hinges

All measures in the drawings are in mm



HC AA	HC AB	HC LL

Travel diagrams

All measures in the diagrams are in degrees

Contact blocks		Group 1
52C	1NO+1NC	0 3° 7° 180° 5°
52D	2NC	0 3° 7° 180°
52F	1NO+2NC	0 3° 7° 180° 5°
52M	2NO+2NC	0 3° 7° 180° 5°

Contact blocks		Group 1
53C	1NO+1NC	0 3° 7° 180° 1°
53F	1NO+2NC	0 3° 7° 180° 1°
53M	2NO+2NC	0 3° 7° 180° 1°

Contact blocks		Group 1
50C	1NO+1NC	0 4° 8° 180° 1.5°
50D	2NC	0 4° 8° 180° 1.5°
50F	1NO+2NC	0 4° 8° 180° 1.5°
50M	2NO+2NC	0 4° 8° 180° 1.5°

The contact operating point indicated in the travel diagrams can be adjusted from 0° to +4°.

Accessories

Article	Description
VF AC7032	Protection cap of regulation screw

The plug is supplied with every hinge and must always be inserted after the operating point regulation.
In case of loss or damage, the cap can be ordered separately.

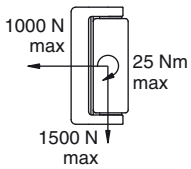
Legend

- Closed contact
- Open contact
- Positive opening travel
- Pushing the switch / Releasing the switch

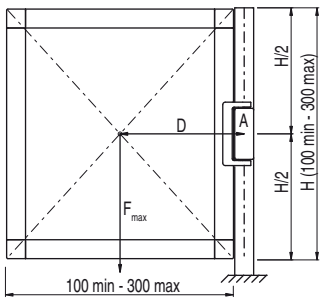
Max. forces and loads HP AA

All measures in the drawings are in mm

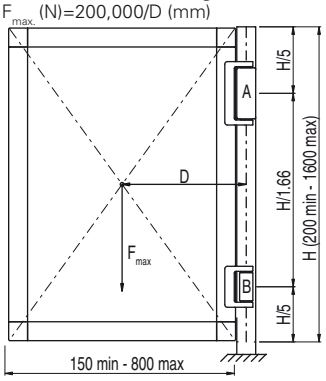
Admitted max. loads, independent of utilization conditions.



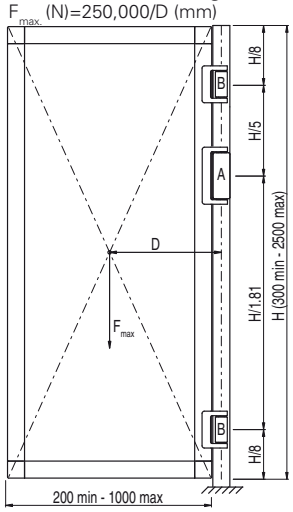
Doors with one safety hinge
$F_{max.}$ (N)=25,000/D (mm)



Doors with one safety hinge and one additional hinge
$F_{max.}$ (N)=200,000/D (mm)



Doors with one safety hinge and two additional hinges
$F_{max.}$ (N)=250,000/D (mm)



Legend

F_{max}	Force exercised by the door weight (N)
D	Distance from the door barycentre to the hinge axis (mm)
A	Safety hinge
B	Additional hinge

Items with code on **green** background are stock items

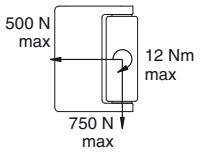
Accessories See page 287

➔ The 2D and 3D files are available at **www.pizzato.com**

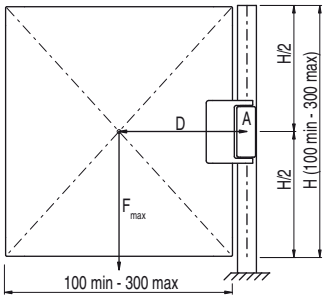
Max. forces and loads HP AB

All measures in the drawings are in mm

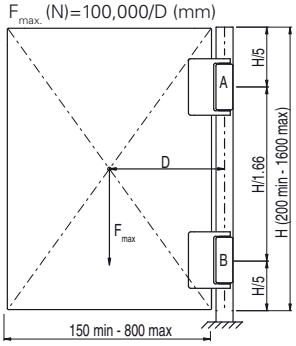
Admitted max. loads, independent of utilization conditions.



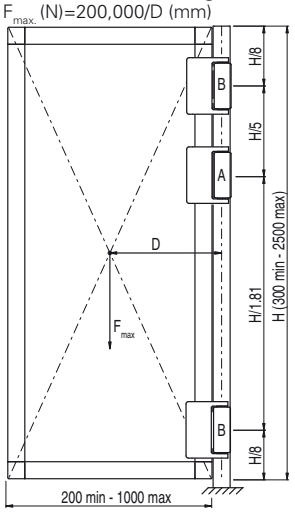
Doors with one safety hinge
$F_{max.}$ (N)=12,500/D (mm)



Doors with one safety hinge and one additional hinge
$F_{max.}$ (N)=100,000/D (mm)



Doors with one safety hinge and two additional hinges
$F_{max.}$ (N)=200,000/D (mm)



Legend

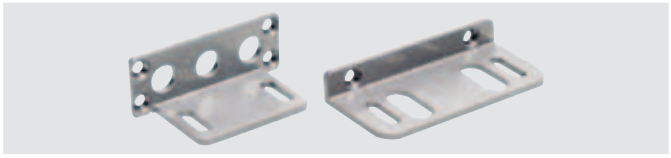
F_{max}	Force exercised by the door weight (N)
D	Distance from the door barycentre to the hinge axis (mm)
A	Safety hinge
B	Additional hinge

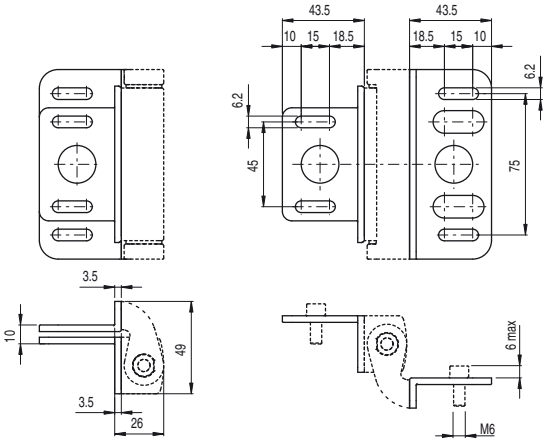
Fixing plates

All measures in the drawings are in mm

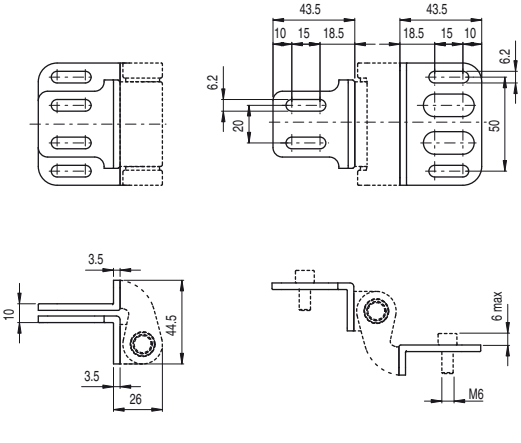
Fixing screws for profile not supplied.

Article	Description
VF SFH1-C	Couple of angular supports for HP AA and HC AA supplied with fixing screws for switch

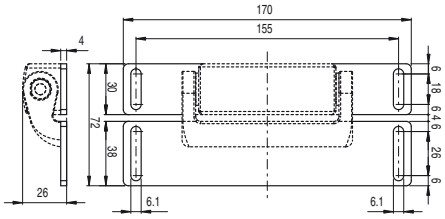




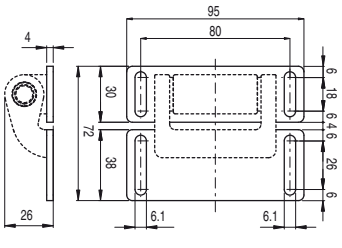
Article	Description
VF SFH2-C	Couple of angular supports for HC LL supplied with fixing screws for switch



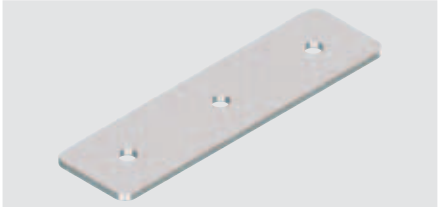
Article	Description
VF SFH3-C	Couple of plane supports for HP AA and HC AA supplied with fixing screws for switch

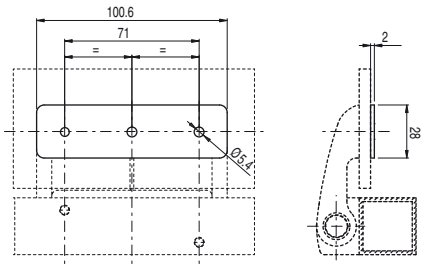


Article	Description
VF SFH4-C	Couple of plane supports for HC LL supplied with fixing screws for switch



Article	Description
VF SFH7	HP AB series mobile part cover in stainless steel





Items with code on **green** background are stock items

Accessories See page 287

→ The 2D and 3D files are available at **www.pizzato.com**